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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/501,225

02/04/2005

Joannes Leonard Linden

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EXAMINER

LIGHTFOOT, ELENA TSOY

ART UNIT

PAPER NUMBER

1792

MAIL DATE

DELIVERY MODE

10/14/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/501,225	Applicant(s) LINDEN ET AL.	
	Examiner Elena Tsoy Lightfoot	Art Unit 1792	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 July 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) 23-31 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-22 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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Election/Restrictions

Applicant's election with traverse of Group I, claims 1-22 in the reply filed on July 23, 2008 is acknowledged. The traversal is on the ground(s) that Kodama does not teach or suggest an inorganic component having nanoparticles, as required by claim 1 reciting that the hybrid coating includes an inorganic component having nanoparticles. This is not found persuasive because the special technical feature common to all the independent claims is a combination of *precursors* for inorganic component (i.e. **precursors** for depositing nanoparticles, not nanoparticles themselves, as argued by Applicants) and an organic component for plasma activated deposition of a hybrid coating as claimed by claim 1, which is shown to be anticipated by US 5522343 to Kodama et al (See column 3, lines 1-15 and Example 3).

Although the Examiner does not agree with Applicants arguments, still a new Restriction has been issued because restriction of species has not been addressed by the Examiner.

The new Election/Restriction Requirement is as follows:

Examiner Note

It is noted that forming a film of a carbon-based material in which finely-divided metallic particles are dispersed using plasma CVD of an organometallic material (organometallic compound, organometallic complex, metallic alkoxide), and plasma CVD of an organic material and halogenated metallic compound is well known in the art, as evidenced by US 5024927 to Yamada et al (See column 11, lines 36-45). Yamada et al teaches that the film of the carbon-based material in which finely-divided metallic particles are dispersed can be formed by **any one of the known methods** such as **co-vapor deposition** or sputtering of an organic material and a

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metal, the combination of plasma CVD of an organic material and vapor deposition or sputtering of a metal, **plasma CVD of an organometallic composite material (organometallic compound, organometallic complex, metallic alkoxide)**, and **plasma CVD of an organic material and halogenated metallic compound** (See column 11, lines 36-45).

Therefore, the inventions listed as Groups I-IV (See previous Office Action) do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical feature for the following reasons: the special technical feature common to all the independent claims is a combination of precursors for inorganic and an organic component that may be activated in a plasma source for plasma activated deposition of a hybrid coating as claimed by claim 1, which is shown to be anticipated by US 5024927 to Yamada et al (See column 11, lines 36-45). For these reasons the unity does not exist between the groups of claims.

Lack of Unity – Species of Group I

The Group I contains claims directed to more than one species of the generic invention.

(A) Inorganic precursor comprising:

- (i) metal-carbon, metal-hydrogen, metal-nitrogen, metal-halide, and/or metal-oxygen bonds (Claims 10, 12);
- (ii) an organometal compound, a metal organic compound, metal alkoxide, metal carboxylate, or metal-.beta.-diketonate (Claims 11-12);
- (iii) silicon-carbon, silicon-hydrogen, silicon-nitrogen, silicon-halide, and/or silicon-oxygen bonds (Claims 13-14).

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(B) Organic precursor comprising:

- (i) short chain alkanes (Claims 15-16);
- (ii) acrylate (Claims 15-16);
- (iii) styrene (Claims 15-16);
- (iv) carbon-fluorine compounds (Claims 15-16);
- (v) an organosilicon compound (Claim 17);
- (vi) organometal compound (Claim 17);
- (vii) metal organic compound (Claim 17);
- (viii) p-xylylene, and/or optionally functionalized compounds derived therefrom (Claim 17).

The species listed above do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, the species lack the same or corresponding special technical features for the following reasons: the special technical feature common to all species is plasma assisted chemical vapor deposition to a substrate of a hybrid coating from a mixture of inorganic component precursor and organic component precursor, which is shown to be anticipated by US 5024927 to Yamada et al (See column 11, lines 36-45).

Therefore, these species are deemed to lack unity of invention because they are not so linked as to form a single general inventive concept under PCT Rule 13.1.

Applicant is advised that the reply to this requirement to be complete must include an election of a **single** species from **each** of (A) and (B) to be examined even though the requirement be traversed (37 CFR 1.143).

Subspecies of (A)(ii)

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Should species (A)(ii) be chosen, Applicant is advised that the reply to this requirement to be complete must include an election of **one** of the following subspecies (i)-(iv).

- (i) a high electron density high-frequency plasma for generating inorganic component (Claims 6-7);
- (ii) a low electron density high-frequency plasma for generating organic component (Claims 8-9);
- (iii) the activated inorganic precursor passes the plasma for activation of the organic precursor (Claims 4, 21);
- (iv) the activated organic precursor passes the plasma for activation of the inorganic precursor (Claims 5, 22).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elena Tsoy Lightfoot whose telephone number is 571-272-1429. The examiner can normally be reached on Monday-Friday, 9:00AM - 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Meeks can be reached on 571-272-1423. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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Elena Tsoy Lightfoot, Ph.D.

Primary Examiner

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October 15, 2008

/Elena Tsoy Lightfoot/